

## Chapter NR 506

## LANDFILL OPERATIONAL CRITERIA

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**NR 506.01 Purpose.** The purpose of this chapter is to help ensure that efficient, nuisance-free and environmentally acceptable solid waste management procedures are practiced in Wisconsin and to outline the requirements regarding operational criteria for solid waste landfills and surface impoundments. This chapter is adopted under ss. 144.43 to 144.47, and 227.11, Stats.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.02 Applicability.** (1) Except as otherwise provided, this chapter governs all solid waste disposal facilities as defined in s. 144.43 (5), Stats., except hazardous waste facilities as defined in s. 144.61 (5m), Stats., and regulated under ch. NR 181 and metallic mining operations as defined in s. 144.81 (5), Stats., and regulated under ch. NR 182.

(2) This chapter does not apply to the design, construction or operation of industrial wastewater facilities, sewerage systems and waterworks treating liquid wastes approved under s. 144.04, Stats., or permitted under ch. 147, Stats., nor to facilities used solely for the disposal of liquid municipal or industrial wastewater facilities, sewerage systems and waterworks treating liquid wastes approved under s. 144.04, Stats., or permitted under ch. 147, Stats., except for facilities used for the disposal of solid waste.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.03 Definitions.** The terms in this chapter are defined in s. NR 500.03.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.04 Open burning.** No person may conduct open burning at a new or existing land disposal facility except in conformance with the minimum requirements of this section.

(1) **GENERAL.** Open burning of solid waste is prohibited unless an exemption authorizing open burning is granted in writing by the department. The department shall grant an exemption if the open burning operation meets the criteria in s. 144.436 (2), Stats. The department shall utilize the following criteria in implementing and interpreting s. 144.436, Stats.

(a) In determining the population equivalent served by a facility, the department may consider credible documentation submitted by the ap-

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plicant which establishes that the actual population served by the facility is less than the total population in the geographic area served.

(b) In determining the need to obtain written consent from residents and proprietors within  $\frac{1}{4}$  mile of the licensed boundaries, the department may not require that the consent be obtained from any person who was not a resident or proprietor at the time the landfill initially was authorized to open burn, unless that person is a successor in interest to a person who was a resident or proprietor at that time.

(c) If a resident or proprietor who previously consented to open burning at the facility withdraws, terminates or revokes the consent in writing, the withdrawal, termination or revocation is not effective until the end of the current license period for the facility.

(d) Facilities located in Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington or Waukesha county are not eligible to open burn solid waste.

(2) FACILITIES SERVING LESS THAN 2,500 PERSONS. Facilities serving a population equivalent of less than 2,500 are eligible for an exemption allowing open burning provided that the requirements of s. 144.436, Stats., and the following criteria are met:

(a) All burning shall be done on a burning pad or pit which is separated from the active disposal area by a minimum of 200 feet. A fire break of mineral soil scraped free of vegetation shall be maintained for a minimum distance of 100 feet around the burning pad or pit.

(b) Fire protection equipment shall be maintained at the facility unless provisions are made for the services of a local fire protection agency.

(c) Wet combustible garbage, oily substances, asphalt, plastic and rubber products may not be burned. These waste types shall be separated and disposed of in a licensed landfill.

(d) The ash from the burning pad shall be removed and disposed of in a licensed landfill as often as necessary to allow for proper operation and at least every 30 days. Care shall be taken to ensure that the ash is sufficiently cool before placement in the landfill.

(e) The burning shall be done in compliance with all state and local burning regulations and permits.

(f) An attendant shall be present to supervise the burning operation and to ensure that any fire is completely extinguished at the end of each day.

(g) Tires or flammable material such as gasoline may not be used for starting fires.

(3) FACILITIES SERVING AT LEAST 2,500 PERSONS BUT LESS THAN 10,000. Facilities serving a population equivalent of 2,500 or more but less than 10,000 are eligible for an exemption to burn only clean wood and paper provided that the criteria listed in sub. (2) and the following additional criteria are met:

(a) Leaves, pine needles, painted or treated wood such as railroad ties and demolition material may not be burned.

(b) Paper may be burned only if it is separately collected and stored in a nuisance-free manner.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.05 Daily cover requirements.** (1) **UNPROCESSED MUNICIPAL SOLID WASTE.** All unprocessed municipal solid waste shall be compacted and completely covered at the end of each operating day with a compacted layer of at least 6 inches of soil or other material approved in writing by the department. If clay soil is used for daily cover purposes, it shall be scarified or removed prior to placement of the next lift of waste. The department may grant an exemption in writing for less frequent covering for operations serving a population equivalent of less than 2,500 if all portions of the licensed operation are greater than  $\frac{1}{4}$  mile from any residence or place of public gathering or written consent is obtained from all residents and proprietors within  $\frac{1}{4}$  mile of the licensed operation, potential nuisance conditions are not created and the solid waste is compacted and completely covered no less frequently than once per month, except for the months of December, January, February and March. The department shall utilize the following additional criteria when evaluating exemption requests:

(a) In determining the need to obtain written consent from residents and proprietors within  $\frac{1}{4}$  mile of the licensed boundaries, the department may not require that the consent be obtained from any person who was not a resident or proprietor at the time the landfill initially was authorized to cover on a less than daily basis, unless that person is a successor in interest to a person who was a resident or proprietor at that time.

(b) If a resident or proprietor who previously consented to covering on a less than daily basis withdraws, terminates or revokes the consent in writing, the withdrawal, termination or revocation is not effective until the end of the current license period for the facility.

(c) In determining the population equivalent served by a facility, the department may consider credible documentation submitted by the applicant which establishes that the actual population served by the facility is less than the total population in the geographic area served.

(2) **PROCESSED MUNICIPAL SOLID WASTE, INDUSTRIAL WASTE AND COMMERCIAL WASTE.** All processed municipal solid waste, industrial waste and commercial waste shall be compacted and completely covered at the end of each operating day with a compacted layer of at least 6 inches of soil or other material approved in writing by the department. High volume industrial waste is not subject to daily cover requirements unless specifically required by the department. The department may grant an exemption in writing for less frequent covering. In granting such exemptions, the department shall consider the characteristics of the solid waste, the leaching potential of the solid waste and the potential for nuisance conditions if other than daily covering is utilized.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.06 Intermediate cover.** Unless otherwise approved by the department in writing, any portion of a solid waste land disposal facility which has been used for waste disposal but will not receive additional solid waste for a period exceeding 6 months shall be covered with one foot of fined grained intermediate cover. A specific soil type may be specified by the department for this one foot layer. The intermediate cover shall

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be compacted and adequately sloped to allow surface water runoff. The slopes shall be no less than 5% and no greater than 33%. The department may require that intermediate slopes be vegetated depending on the length of time they will remain open. This section does not apply to high volume industrial waste or to wood residue approved as a construction material or to provide protection of the liner from frost under s. NR 506.07 (2) (b), unless specifically required by the department.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.07 Operational requirements for landfills.** No person may operate or maintain a new or existing land disposal facility except in conformance with any approved plan of operation and the following minimum requirements:

(1) **GENERAL.** (a) Daily deposition of solid waste shall be confined to as small an area as practical.

(b) Provisions shall be made to confine windblown material within the active disposal area.

(c) At the conclusion of each day of operation, all windblown material shall be collected and properly disposed of in the active area in accordance with the provisions of this section unless the operator establishes, to the satisfaction of the department, that all windblown material cannot be collected using reasonable efforts because of conditions beyond the control of the operator, windblown material which can be collected using a reasonable effort has been collected and properly disposed of and nuisance conditions do not exist.

(d) Surface water drainage shall be diverted away from the working area and areas already filled with waste.

(e) Putrescible materials such as spoiled foods and animal carcasses shall be immediately compacted and covered.

(f) Access to the facility shall be restricted through the use of fencing, natural barriers or other methods approved in writing by the department.

(g) Effective means shall be taken to limit access to the active disposal area to minimize exposure of the public to hazards.

(h) Effective means shall be taken to control flies, rodents and other insects and vermin.

(i) Equipment shall be provided to control accidental fires and arrangements shall be made with the local fire protection agency to acquire its services when needed.

(j) An attendant shall be on duty at the facility at all times while it is open for public use.

(k) A gate shall be provided at the entrance to the operation and it shall be kept locked when an attendant is not on duty.

(l) The gate area shall be policed at the beginning of each day of operation to remove any solid waste which has been indiscriminately dumped during periods when the facility was closed.

(m) A sign, acceptable to the department shall be posted at the entrance of any facility operated for public use which indicates the facility name, license number, the hours of operation, waste types accepted, penalty for unauthorized use, necessary safety precautions and any other pertinent information.

(n) The facility shall be surrounded with rapidly growing trees, shrubbery, fencing, berms or other appropriate means to screen it from the surrounding area and to provide a wind break.

(o) Means acceptable to the department shall be taken to control dust resulting from facility operation.

(p) Scavenging within the active disposal area is prohibited.

(q) Provisions shall be made for back-up equipment in the event of operating equipment breakdown.

(r) A minimum separation distance of 20 feet shall be maintained between the limits of waste filling and adjacent property or the perimeter of the licensed acreage, whichever is closer at nonapproved facilities as defined in s. 144.44 (1) (c), Stats. A minimum separation distance of 100 feet shall be maintained between the limits of waste filling and the property boundary or the perimeter of the licensed acreage, whichever is closer for all new and expanded facilities and all approved facilities as defined in s. 144.44 (1) (a), Stats. The department may require additional separation distance if necessary to provide for vehicle access, drainage, monitoring, gas migration control, separation to adjacent homes or other facility development factors.

(s) All topsoil within the facility construction limits shall be salvaged and stored within the property boundaries for use in facility closure. All stockpiled soil material which is not anticipated to be used within 6 months shall be seeded.

(t) All access roads to the active area of the operation shall be of all-weather construction and shall be maintained in good condition.

(u) All access roads for the use of waste hauling trucks shall be constructed with a maximum grade no greater than 10%. The intersection of the access road with an existing highway shall be constructed to provide sufficient sight distance and provide for minimum interference with traffic on existing highways.

(2) WASTE PLACEMENT. (a) For all landfills designed with liners, deposition of waste on the granular drainage blanket shall begin at the edge of each phase. Waste shall be pushed out over the granular blanket. Vehicles may not be driven directly on the granular blanket. Alternative operating procedures may be approved by the department if the consistency of the waste prevents vehicular access over a filled area.

(b) For all landfills designed with liners, a layer of waste at least 4 feet thick or an adequate amount of other frost protection material shall be placed over the granular blanket in all portions of the lined area prior to December 31st of the year the liner was constructed. Waste may not be placed during the winter on any portion of the liner not having a 4-foot thick layer of waste or other adequate frost protection material covering it after December 31st each year. Those portions of the clay liner shall be investigated for density and effects from freeze-thaw as specified by the

department and shall be recompacted and recertified during the next construction season if required, prior to waste placement. The requirements of this paragraph may be waived by the department upon the request of the owner.

(c) To provide for maximum compaction, each single layer of municipal solid waste shall be spread and compacted in 2-foot layers.

(3) **GAS CONTROL.** Effective means shall be utilized to prevent the migration of explosive gases generated by the waste fill. At no time shall the concentration of explosive gases in any facility structure, excluding the leachate collection system or gas control or recovery system components, or in the soils or air at or beyond the facility property boundary exceed 25% of the lower explosive limit for such gases. The department may require the concentration of explosive gases not exceed the lower detection limit for that gas at the facility property boundary.

(4) **LEACHATE COLLECTION SYSTEMS.** (a) Leachate shall be removed from all collection tanks, manholes, lift stations, sumps or other structures used for leachate storage as often as necessary to allow for gravity drainage of leachate from the facility at all times. All leachate removed from a leachate collection system shall be disposed of at a wastewater treatment facility approved by the department and capable of accepting the leachate in accordance with the requirements of its WPDES discharge permit.

(b) Any liquid which comes in contact with waste or accumulates in a portion of the facility where active waste disposal operations are occurring shall be handled as leachate and properly treated as specified in par. (a) unless otherwise approved by the department in writing.

(c) All leachate collection lines shall be cleaned with a water jet cleanout device immediately after construction, after the first layer of waste has been placed over an entire phase and annually thereafter.

(5) **BORROW AREAS.** All borrow areas established after February 1, 1988 shall be abandoned in accordance with section 208.3, Wisconsin department of transportation standard specifications for road and bridge construction.

(6) **PHASED CLOSURE.** Each phase of the facility shall have final cover placed over it as soon as possible after final grades are reached. By September 15th of each year, any areas that are at final grades shall be capped, topsoiled and seeded.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.08 Closure requirements.** Any person who maintains or operates a land disposal facility, or who permits use of property for such purpose shall, when the fill area or portion thereof reaches final grade, or when the department determines that closure is required, cease to accept waste and close the facility or portion thereof in accordance with the plan approval issued by the department and the following minimum practices unless otherwise approved by the department in writing:

(1) **NOTIFICATION PROCEDURES.** (a) At least 120 days prior to closing the facility, the owner or operator shall notify the department in writing of the intent to close the facility and the expected date of closure. Prior to this date, the owner or operator shall notify all users of the facility of the

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intent to close the facility so that alternative disposal options can be arranged.

(b) Signs shall be posted at all points of access to the facility at least 30 days prior to closure indicating the date of closure and alternative disposal facilities. Facilities which are operated by and serve only a single waste generator and are not open to the public are exempt from this provision.

(c) Notice of the upcoming closure shall be published in a local newspaper at least 30 days prior to closure and a copy of the notice shall be provided to the department within 10 days of the date of publication. Facilities which are operated by and serve only a single waste generator and are not open to the public are exempt from this provision.

(2) **GENERAL REQUIREMENTS.** Within 10 days after ceasing to accept waste, the owner or operator shall restrict access by the use of gates, fencing or other appropriate means to insure against further use of the facility. If the final use allows access, such access shall be restricted until closure has been completed and approved by the department.

(3) **CLOSURE.** Within 60 days after ceasing to accept waste, closure shall be accomplished in the following manner for facilities without a closure plan or plan of operation approved in writing by the department. Placement of final cover in accordance with s. NR 504.07 may be required if the department determines that this type of final cover system is necessary to prevent or abate attainment or exceedance of the groundwater standards contained in ch. NR 140.

(a) The entire area previously used for disposal purposes shall be covered with at least 2 feet of compacted earth sloped adequately to allow surface water runoff. A specific soil type may be required by the department for this 2-foot layer. The department may require the cover layer to be more than 2 feet thick.

(b) Surface water run-on shall be diverted around all areas used for waste disposal to limit the potential for erosion of the cover soils and increased infiltration. Drainage swales conveying surface water runoff over previous waste disposal areas shall be lined with a minimum thickness of 2 feet of clay.

(c) The final slopes of the facility shall be greater than 2%, but shall not exceed 3 horizontal to one vertical.

(d) The finished surface of the disposal area shall be covered with a minimum of 6 inches of topsoil.

(4) **ESTABLISHMENT OF VEGETATION.** Within 90 days after ceasing to accept waste, or if waste termination is after September 15, within 90 days after March 15 of the following year, the owner or operator shall complete seeding, fertilizing and mulching of the finished surface. The seed type and amount of fertilizer applied shall be selected depending on the type and quality of topsoil and compatibility with both native vegetation and the final use. Unless otherwise approved by the department in writing, seed mixtures and applications rates shall be in accordance with section 630, Wisconsin department of transportation standard specifications for road and bridge construction.

(5) **FINAL USE.** The following activities are prohibited at closed solid waste disposal facilities unless specifically approved by the department in writing:

- (a) Use of the facility for agricultural purposes.
- (b) Establishment or construction of any buildings.
- (c) Excavation of the final cover or any waste materials.

(6) **HAZARDOUS AIR CONTAMINANT CONTROL.** All solid waste disposal facilities which have a design capacity of greater than 500,000 cubic yards and have accepted municipal solid waste shall install a department approved system to efficiently collect and combust hazardous air contaminants emitted by the facility within 18 months of February 1, 1988 unless the owner can demonstrate that the performance criteria of s. NR 504.04 (4) (f) can be achieved without implementing such a system. Control techniques other than combustion may be approved by the department.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.09 Waste characterization.** (1) **GENERAL.** Only the waste types and sources listed in the plan of operation approval, wastes previously approved by the department in writing or otherwise allowed under this chapter may be accepted for disposal. Written requests for authorization to accept additional waste types shall be submitted to and approved by the department prior to disposal of such waste.

(2) **SUBMITTAL REQUIREMENTS.** Requests for authorization to accept additional waste types shall include the following information at a minimum:

- (a) Detailed physical and chemical characteristics including percent solids and the results of the paint filter test.
- (b) The volume of waste to be disposed of on a daily and yearly basis.
- (c) The source of the wastes and a description of the processes which generated the waste.
- (d) The duration of disposal.
- (e) Special handling and disposal procedures.
- (f) Based upon a preliminary review of the above information, the department may require additional information to determine the compatibility of the waste with the existing design and operation of the landfill.

Note: Landfill operators who wish to accept hazardous waste from small quantity generators subject to s. NR 181.13 (2) must obtain approval from the department under s. NR 181.13 (7).

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.10 Asbestos.** No person may dispose of asbestos at a solid waste disposal facility except in conformance with the following minimum requirements:

(1) **FACILITY CRITERIA.** Only facilities meeting the following criteria may accept asbestos for disposal:

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(a) The facility shall be a licensed and approved facility as defined in s. 144.441 (1) (a), Stats.

(b) Open burning shall not be conducted at the facility.

(c) The facility shall be approved by the department in writing to accept asbestos.

(2) **GENERAL REQUIREMENTS.** (a) Unless an alternative handling procedure is approved by the department, asbestos shall be disposed of at the base of the active working face. A specific disposal trench shall be excavated into existing refuse. Asbestos shall be placed into the excavated trench and shall immediately be covered with a minimum of 3 feet of waste or soil prior to compaction.

(b) The location of asbestos disposal areas may not coincide with previous asbestos disposal areas or proposed future landfill construction.

(c) All applicable safety measures required by chs. NR 400 to 499, and EPA and OSHA, specifically, those requirements dealing with the safety of personnel working with the asbestos, shall be followed.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.11 Infectious waste.** No person may accept infectious waste at a solid waste disposal facility unless the material has been incinerated in a controlled air, multi-chambered incinerator which provides complete combustion of the waste to carbonized or mineralized ash or has otherwise been treated, processed or handled by a generally accepted medical process so as to render the waste noninfectious.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.12 Ultra low-level radioactive waste.** No person may dispose of ultra low-level radioactive waste at a solid waste disposal facility except in accordance with the following minimum requirements:

(1) **FACILITY CRITERIA.** Only facilities meeting the following criteria may accept ultra low-level radioactive waste for disposal:

(a) The facility shall be a licensed and approved facility as defined in s. 144.441 (1) (a), Stats.

(b) The facility shall be approved by the department in writing to accept ultra low-level radioactive waste.

(2) **GENERAL REQUIREMENTS.** The following criteria also apply to facilities proposing to accept ultra low-level radioactive waste:

(a) Sludge wastes shall meet the requirements contained in s. NR 506.13 or 506.14, as appropriate.

(b) A plan shall be submitted which addresses the control of any radon gas which may be generated by the waste.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.13 Free liquids wastes.** (1) **SMALL QUANTITY EXEMPTION.** An owner or operator of a solid waste facility used for the disposal of municipal waste may accept waste containing free liquids amounting to no more than 55 gallons on a one-time basis provided that the material is tested and determined to be non-hazardous, the criteria contained in

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sub. (2) (a) and (b) are complied with and the department is notified and provided with all testing information prior to disposal. The department may require additional information if deemed necessary.

(2) **MUNICIPAL SOLID WASTE DISPOSAL FACILITIES.** Solid waste facilities used for the disposal of municipal solid waste shall not accept waste containing free liquids unless the facility meets the criteria contained in s. NR 506.14 (2) (a) and (b), is in substantial compliance with the minimum design criteria specified in s. NR 504.05 and the material is specifically approved in writing by the department. The information specified in s. NR 506.14 (2) (d) shall be submitted when requesting an approval under this section.

(3) **OTHER FACILITIES.** An owner or operator of any nonmunicipal solid waste disposal facility may accept waste containing free liquids only in accordance with plans approved by the department in writing.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.14 Non-free liquid solid wastes.** (1) **SMALL QUANTITY EXEMPTION.** An owner or operator of a solid waste facility used for the disposal of municipal waste may accept sludge wastes amounting to less than 50 cubic yards per year per generator provided that the material is tested and determined to be non-hazardous, the criteria contained in sub. (2) (a) to (c) and are complied with and the department is notified and provided with all testing information prior to disposal. The department may require additional information if deemed necessary.

(2) **MUNICIPAL SOLID WASTE DISPOSAL FACILITIES.** An owner or operator of a solid waste facility used for the disposal of municipal solid waste shall not accept sludge wastes for disposal unless all of the following criteria are complied with:

(a) The facility shall be a licensed and approved facility under s. 144.441 (1) (a), Stats.

(b) The proposed facility shall be in compliance with all solid waste regulations and any plan of operation approval.

(c) The material has been tested and determined not to contain free liquids.

(d) A report shall be submitted to and approved by the department which addresses the physical and chemical characteristics of the waste including the percent solids; the weight and volume of material produced; the frequency of waste generation; the amount of additional liquid which would be added over a specified time frame; revised water balance and liner efficiency calculations to account for the additional liquids added; methods for handling the additional gas generation and any proposed changes to the groundwater, surface water, unsaturated zone or leachate monitoring programs.

(e) A quarterly report is submitted which documents the daily mixing ratios of each sludge waste to municipal waste on both a weight and volume basis and any operational problems.

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(3) **OTHER FACILITIES.** An owner or operator of any nonmunicipal solid waste disposal facility may accept sludge which does not contain free liquids only in accordance with plans approved by the department.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.

**NR 506.15 Enforcement.** The department may deny, suspend or revoke the operating license of a solid waste disposal facility as provided in s. 144.44 (4) (a), Stats., for failure to pay fees required under ss. 144.43 to 144.47, Stats., or for grievous and continuous failure to comply with the approved plan of operation under s. 144.44 (3), Stats., or, if no plan of operation exists with regard to the facility, for grievous and continuous failure to comply with any requirement of chs. NR 500 to 522. Any failure to comply with any such requirement or condition on 5 or more days within any 30 successive calendar days and which consists of action or inaction which may cause pollution as defined in s. 144.01 (10), Stats., or which may otherwise create nuisance conditions, is a grievous and continuous failure to comply with the requirement or condition.

History: Cr. Register, January, 1988, No. 385, eff. 2-1-88.